

5.0 MENUS

5.1 PULL-DOWN MENUS

5.1.1 Appearance

A pull-down menu, shown in figure 5-1, consists of a menu title and a set of options displayed below the title from which users choose. The menu title is displayed in the menu bar at the top of the window and describes the category or type of options presented in the menu. The title is different from the other menu titles in the menu bar and does not appear as an option in the menu itself. The title is a single word whenever possible and does not contain numbers. The first letter of each word is capitalized, except for prepositions and articles, and includes a mnemonic (see section 5.5.5). If the title contains an acronym, it is capitalized. The title does not contain an ellipsis or a right-pointing arrow.

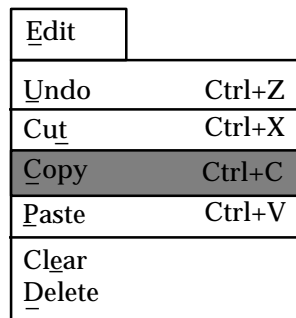


Figure 5-1. Example pull-down menu in Windows.

A pull-down menu can contain three types of menu options, shown in figure 5-2: (1) actions that are executed immediately, (2) routings that display a window or submenu, and (3) settings that define parameters or specify an application state. Routing options that display a window are followed by an ellipsis (i.e., "..."). Routing options that display a submenu are followed by a right-pointing arrow. Options that are settings can be action toggles (e.g., turn on/turn off) or state toggles (e.g., select a font size from the set available). Menu design, including the availability of mnemonics and accelerators, is addressed in section 5.5.

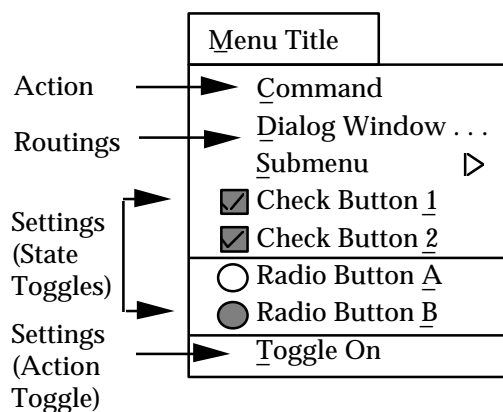


Figure 5-2. Examples of menu option types in Motif.

Submenus, shown in figure 5-3, are used to present groups of related actions hierarchically and shorten menus that are overly long. A submenu is positioned either to the right of the parent menu or below the parent menu if space to the right is limited. The first option in the submenu is aligned with the

right-pointing arrow in the parent option for the submenu. The parent option is always shown as available. When this option is activated, the submenu is always displayed, even if all of the options in the submenu are unavailable. A submenu contains only the options in that menu and does not repeat the parent option as the first option in the submenu.

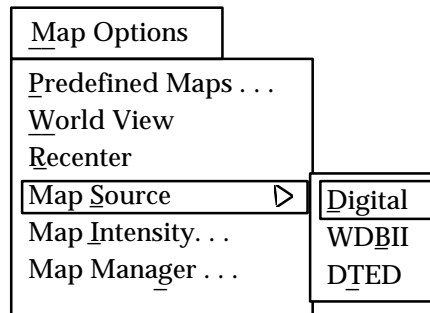


Figure 5-3. Example submenu in Motif.

5.1.2 Behavior

Spring-loaded and posted methods are used to display a pull-down menu and activate a menu option with the pointing device.¹

In the spring-loaded method, users place the pointer on the menu title and press BSelect (or BMenu in Motif).² The menu is activated (i.e., displayed), with the location cursor on the first available option in the menu. As users drag the pointer over the menu options, the location cursor tracks the pointer, moving to each option as the pointer is placed on it, and any submenus for which an option is the parent are displayed. The submenu is dismissed when the pointer moves off the parent option. Users drag the pointer to the option desired and release BSelect to activate the option and dismiss the menu. Users drag the pointer off the menu and release BSelect to dismiss the menu without activating an option.

In the posted method, users place the pointer on the menu title and click BSelect or (BMenu in Motif). The menu is displayed, with location cursor on the first available option in the menu. To display a submenu, users place the pointer on the option that is the parent for the submenu and click BSelect. To select an option, users place the pointer on the option desired and click BSelect. The location cursor moves to the option, the option is activated, and the menu is dismissed. Users move the pointer off the menu and click BSelect to dismiss the menu without activating an option.

<F10> (or <Shift><Menu> in Motif) moves the location cursor to the first (i.e., leftmost) available menu title in a menu bar; if none of the menu titles is available, then these keys do not move the location cursor to the menu bar from its position in the window. <Left> and <Right> move the location cursor between available menu titles in the menu bar, with the cursor wrapping between the last and first titles. <F10> (or <Shift><Menu> in Motif) exits the menu bar, and the location cursor returns to the object that had input focus before the menu was activated.

¹ This document does not call for the assignment of default options in pull-down or pop-up menus although Motif supports this feature as optional.

² In previous versions of Motif, only BSelect was used to activate a pull-down menu. In CDE, applications can optionally support the use of either BSelect or BMenu.

When the location cursor is on a menu title, <Down> displays the menu, with the location cursor appearing on the first available option.³ The arrow keys move the location cursor between available options, with wrapping from the bottom to top options in the menu. If the menu option with the location cursor is the parent for a submenu, <Right> displays the submenu and moves the location cursor to the first available option in it. <Up> and <Down> move the location cursor between options in the submenu, and <Left> dismisses the submenu and returns the location cursor to its parent option. <Enter> (or <Return>, <Select>, or <Space> in Motif) activates an option and dismisses the menu. <Esc> (or <Cancel> in Motif) dismisses the menu without activating an option and returns the location cursor to the object that previously had focus. Menu options can also be activated from the keyboard using mnemonics and accelerators (see section 3.4.2).

5.2 POP-UP MENUS

5.2.1 Appearance

A pop-up menu, shown in figure 5-4, is used to provide redundant access to frequently executed actions.

Motif Only: The menu includes a title describing the function performed by the menu or the object to which the menu relates. The title is displayed at the top of the menu and separated from the first menu option by a separator line.

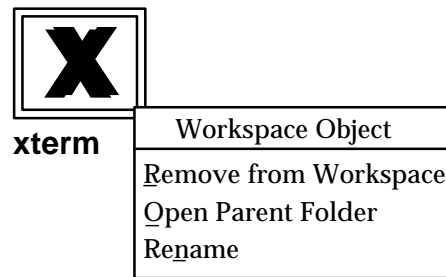


Figure 5-4. Example pop-up menu in Motif.

If a pop-up menu contains options taken from different menus in the window, options (e.g., Open, Save) pertaining to the object to which the menu relates are presented first, followed by edit options (e.g., Undo, Cut, Copy) and then by application-specific options. A separator delimits each group of options. A pop-up menu does not include any submenus.

Motif Only: If a pop-up menu includes any of the following options, they are ordered: Properties, Undo, Primary Move, Primary Copy, Primary Link, Cut, Copy, Copy Link, Paste, Paste Link, Clear, Delete, Select All, Deselect All, Select Pasted, Reselect, and Promote. If the menu relates to a selectable object, it also includes Move To, Copy To, Put in Workspace, Delete, and Help options.

When the pointing device is used to display a pop-up menu, the menu contents relate to the object under the pointer. When the keyboard is used, the menu contents relate to the element with the location cursor. In both cases, the pop-up menu is displayed near the element with which it is associated.

³ The [Motif Style Guide](#) indicates that <Down> displays the pull-down menu while the [Motif User's Guide](#) indicates that <Return>, <Select>, or <Space> performs this action.

5.2.2 Behavior

Users display a pop-up menu by pressing or clicking BMenu and navigate within the menu and activate an option with either BSelect or BMenu. Releasing BMenu with the pointer in the area that displayed the menu dismisses it without activating an option.

Motif Only: Clicking BSelect or BMenu outside a pop-up menu also dismisses it. When the pop-up menu relates to a selection, the action executed by the option chosen applies to all of the elements in the selection. When a pop-up menu relates to an unselected object, the action executed applies only to that object and not to any other object(s) that might be selected.

Windows Only: If there is no current selection, clicking BMenu on an object both selects it and displays its pop-up menu. Clicking BSelect outside a pop-up menu removes the menu and selects the object under the pointer if one is there; clicking BMenu outside the menu only removes the menu.

In Motif, <Shift><F10> (or <Menu>) displays a pop-up menu if one is available; Windows does not support keyboard activation of a pop-up menu. In both Motif and Windows, the arrow keys move the location cursor between options in a pop-up menu. <Enter> (and <Return>, <Select>, or <Space> in Motif) activates an option in the menu and dismisses it. <Esc> (and <Cancel>, <Menu>, or <Shift><F10> in Motif) dismisses a pop-up menu without activating an option, and the location cursor returns to the object that had input focus before the menu was displayed.

5.3 TEAR-OFF MENUS (Motif Only)

5.3.1 Appearance

A pull-down menu, submenu, or pop-up menu provides a tear-off capability if users need to select repeatedly from the menu. A menu that can be torn off contains a tear-off button with a dashed-line graphic that is the first menu option below the menu title, as shown in the top part of figure 5-5. The tear-off button behaves in the same manner as other available options in the menu. When a tear-off menu is displayed, the location cursor appears on the second available option if the first option is the tear-off button.

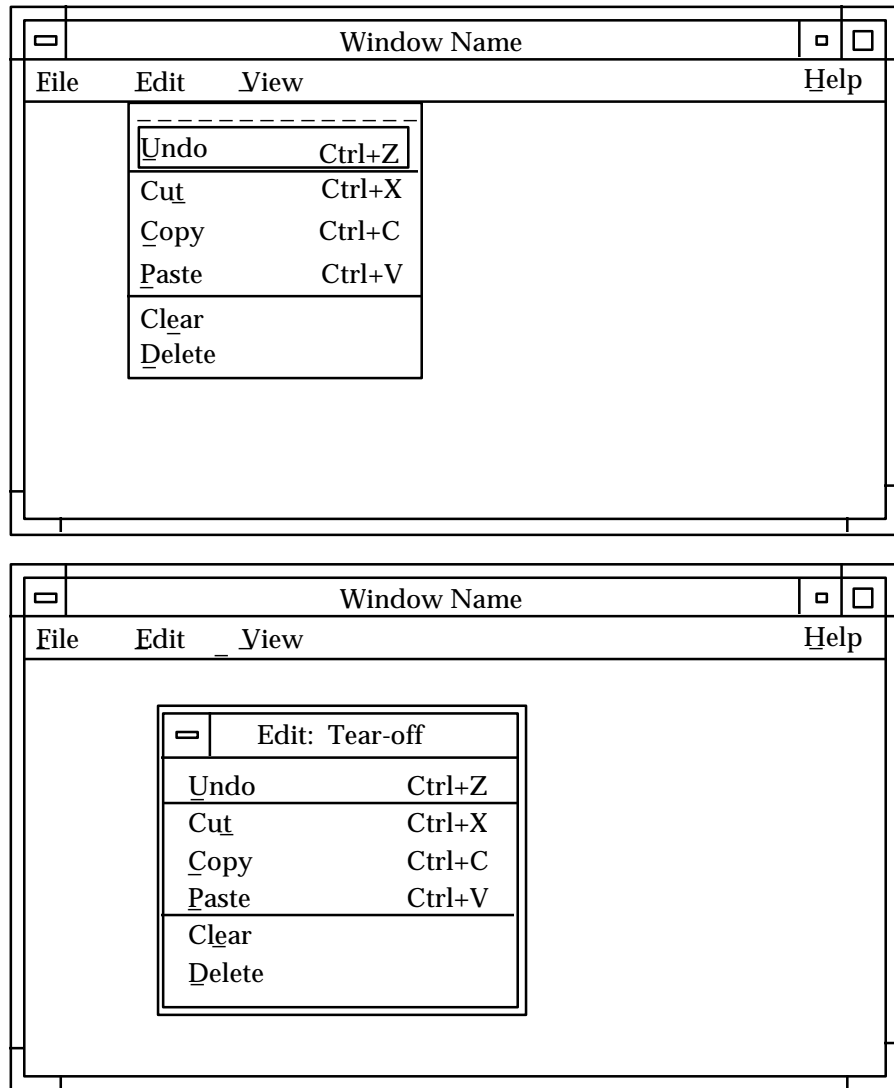


Figure 5-5. Example tear-off menu and menu window in Motif.

When users activate the tear-off button, the options in the menu are displayed in a menu window, as shown in the bottom part of figure 5-5. The title of the window is the title of the associated menu. The contents of the menu window are the same as the original menu, with the options presented in the same order in both cases, but the tear-off button is not displayed in the window. The options in the menu window are dimmed when unavailable and behave in the same manner as the options in the original menu (e.g., the wording of an action toggle changes when selected).

5.3.2 Behavior

Placing the pointer on the tear-off button and clicking BSelect dismisses the menu and displays a menu window at the menu location; dragging the tear-off button with BTransfer displays a menu window and moves it to a new location. In both cases, the window receives focus, with the location cursor on the first available menu option. Clicking BSelect on an option in a menu window moves the location cursor to the option and activates it; the window remains displayed so that the menu is available for additional selections.

The arrow keys move the location cursor to the tear-off button in a menu. <Return>, <Enter>, <Select>, or <Space> dismisses the menu, displays a menu window at the menu location, and assigns input focus to the window, with the location cursor on the first available menu option. The arrow keys move the location cursor between available options in the menu window; <Return>, <Enter>, <Select>, or <Space> activates an option.

A menu window can be moved but not minimized or maximized. A tear-off menu can be displayed while the menu window is open, and options can be activated from either the menu or the window. If the tear-off option in the menu is activated, the original menu window is dismissed and replaced with a new version of the window. The menu window remains displayed until dismissed, either by selecting Close in the Window menu or pressing <Esc> or <Cancel>.

5.4 OPTION MENUS (Motif Only)

5.4.1 Appearance

An option menu, such as the one shown in figure 5-6, consists of a title and an option button which, when activated, displays the menu. The title is placed to the left of the option button (or above it if space is limited) and followed by a colon. The label in the button is the most recent option selected from the menu and includes a bar graphic. The option button is large enough to display the longest menu option and the bar graphic; the graphic does not obscure any text in the button.

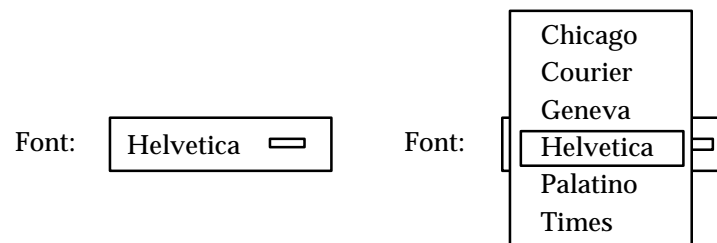


Figure 5-6 Example option menu in Motif.

5.4.2 Behavior

Spring-loaded and posted methods described in section 5.1.2 are used to display an option menu, navigate in the menu, and select a menu option using BSelect or BMenu.⁴ When an option is selected, it is displayed as the label in the option button and the menu is dismissed.

When focus is on the option button, <Space> or <Select> displays an option menu, with the location cursor on the previously selected option in the menu. The arrow keys move the location cursor between available options in the menu. <Return>, <Enter>, <Select>, or <Space> selects an option, dismisses the menu, and displays the option in the option button. <Esc> or <Cancel> dismisses an option menu, and the location cursor returns to the object that had input focus before the menu was displayed.

5.5 MENU DESIGN GUIDELINES

5.5.1 Format of Menu Options

⁴ In previous versions of Motif, only BSelect was available to display an option menu and select an option.

Menu options are presented in mixed case, with the first letter of each word capitalized, except for prepositions and articles. If the option contains an acronym, it is capitalized. The menu is wide enough to accommodate the widest option and an accelerator (if one is available). The accelerator includes a plus sign to indicate the combination of keys (e.g., Shift+Ins) that must be pressed at the same time. The end of the menu option is separated from the start of the accelerator by at least three character widths. Menu options and accelerators are left-justified and appear on a single line; long menu options are accommodated by making the menu wider rather than making the item take two (or more) lines.

5.5.2 Wording of Menu Options

Menu options are phrased to reflect the action that is executed by the option (i.e., phrased as a command to the application rather than as a question to the user), and worded in the vocabulary of users rather than that of application developers. Appendix C lists the vocabulary that the application is to use when the actions described are included in menu options.

Menu options that are action toggles are worded to reflect the action that is implemented when the option is activated. The wording is semantically congruent with natural usage; for example, if one toggle is worded “Move Object Up,” the other toggle is “Move Object Down,” not “Move Object Back.” When users activate one of these options (e.g., turn on), the wording of the option in the menu changes (e.g., turn off) to reflect the action that will be implemented when the action is executed again. Only one of the action toggles appears in the menu at any time. If an Undo option is provided, the wording changes dynamically to reflect the action that can be undone. For example, if the most recently executed action is cut, the option is worded “Undo Cut.”

Options that are state toggles are worded to describe the state (e.g., a list of font names) being set.

Motif Only: Options that are state toggles include a radio button (for an exclusive setting) or a check button (for a nonexclusive setting) to the left of the option. When users activate one of these options, the select state of the check button or radio button changes but the option wording remains the same. The button appears as either selected or unselected and is not removed from the menu when deselected.

Windows Only: Options that are state toggles do not include a radio or check button to the left of the option. When users activate an option in a set of nonexclusive settings, a check mark is placed to the left of the option. When users activate an option in a set of exclusive settings, a dot is placed to the left of the option. When the state of a setting is indeterminate (e.g., selected text includes both normal and bold font sizes), the graphic(s) is removed from all groups for which the setting is indeterminate.

If radio buttons are used in a menu, they are grouped together and delimited from other menu options by a separator.

The wording of each menu option is consistent in grammatical style and matched with the corresponding menu title. For example, additions to an Edit menu containing actions such as Cut, Copy, Paste, and Undo are other verbs describing actions, rather than nouns describing objects or entities. Verbs are used as the first word in options in pull-down and pop-up menus because this format provides consistency and makes the menu options easier to read and understand. If desired, supplementary information about menu options can be provided in the message bar at the bottom of the window containing the menu; as the pointer is placed on an option, a more complete prose description of the action executed by the option is displayed.

5.5.3 Grouping into Menus and Submenus

A pull-down or pop-up menu contains no less than two or more than 15 options, and an option menu contains no more than 10-12 options. Menus with more than four options are divided into groups based on function (as shown in figure 5-7), with each group containing no more than four options (unless more are logical) and delimited by a separator line between groups. If the options cannot be organized into logical groups, they are ordered according to frequency of usage, with the most frequently executed at the top of the menu and least frequently executed at the bottom. If an organization based on logical groups or frequency of use is inappropriate, then the options are ordered alphabetically or in numerical order. Destructive options such as Delete and Clear appear at the bottom of the menu. Menu options that perform opposing actions (e.g., Save and Delete) are not placed adjacent to each other in order to reduce the likelihood of accidental selection of an incorrect action. If similar options are included in different menus, the options are ordered in a consistent manner in each menu.

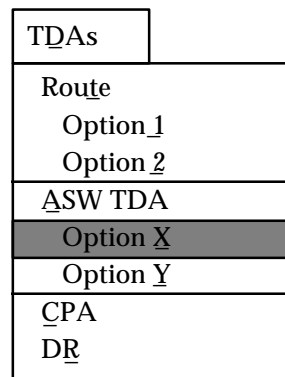


Figure 5-7. Example of logical ordering of menu options in Windows.

Submenus are limited to two levels below the parent menu option and organized as shown in figure 5-8. If the number of submenus will exceed two levels, new menus are created or a dialog window is used. Submenus contain at least three options; if there are only two options, they are placed in the parent menu rather than creating a separate submenu and putting them there.

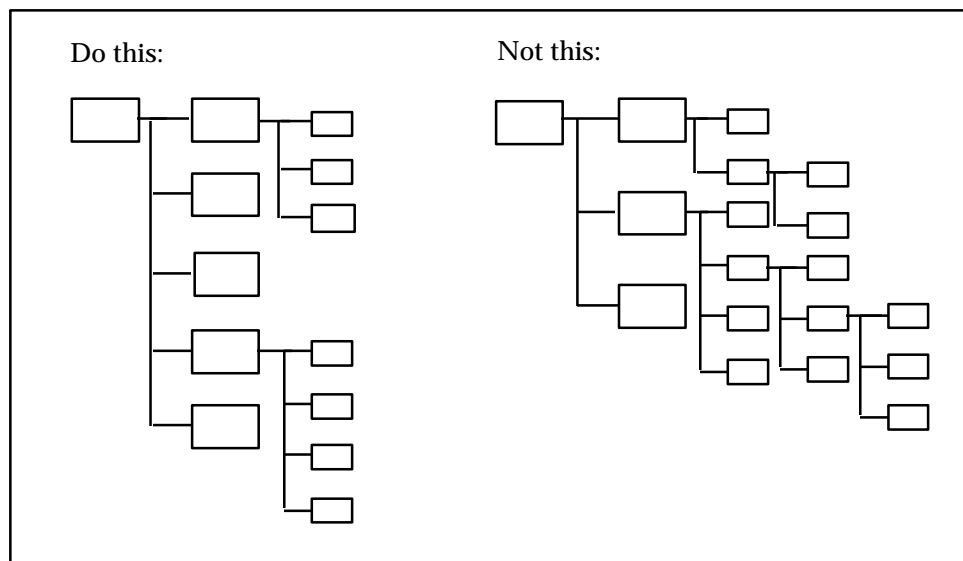


Figure 5-8. Organization of options in submenus.

5.5.4 Availability of Menu Options

If a menu option is never available to a user (e.g., system administrator commands), it is not included in a menu. If an option is only temporarily unavailable, it is displayed in the menu but dimmed (as in figure 5-9) to indicate that it cannot be selected. The wording of options may change (e.g., when an option is an action toggle). However, options are not added to or deleted from a menu to indicate their availability within a particular part of an application.⁵

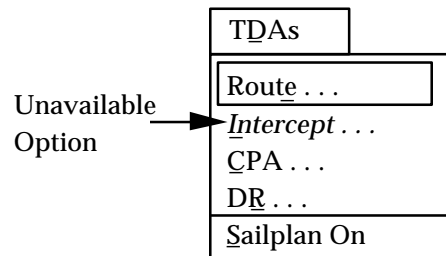


Figure 5-9. Example of an unavailable menu option in Motif.

5.5.5 Mnemonics and Accelerators in Menus

The application provides mnemonics in all pull-down menu titles and options. The mnemonics in appendix C are used whenever one of the actions listed therein is implemented in the application.

Motif Only: Mnemonics are also available in pop-up menus and tear-off menus.

Windows Only: Mnemonics are not available in pop-up menus.

The character assigned as the mnemonic is included in the text label of the menu title or option and underlined, as shown in figure 5-10. Whenever possible, the mnemonic is the first character of the label; a distinctive consonant in the label is preferred over vowels. If the mnemonic is not the first character, it is the last character of the label or the first character of the second word (if there is more than one word) or a sequential number that is assigned to the label. If a mnemonic does not appear in the label, it is placed in parentheses following the text. Mnemonics are not case sensitive; users can type the character in either upper or lower case.

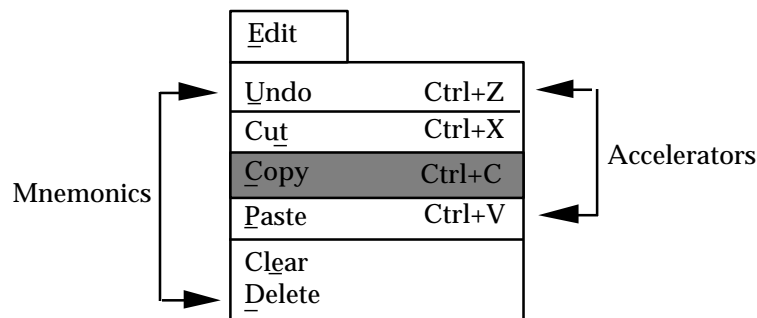


Figure 5-10. Example mnemonics and accelerators in Windows.

⁵ The inclusion of unavailable options in a menu is consistent with Motif and Windows but not with MIL-STD-1472D.

The characters selected as mnemonics in each menu bar and each menu are unique, but the same character can be used as a mnemonic in different menus. A menu title or option has the same mnemonic whenever it appears in the application. Mnemonics are selected to produce minimal interference with the mnemonics used in other menus. For example, the same character is not assigned as the mnemonic for options performing opposite or contradictory actions in different menus (e.g., C used as the mnemonic for Continue in one menu and Close in another).

The application provides accelerators for frequently executed actions in pull-down menus. The same key combination is used for a given accelerator throughout the application.

Motif Only: Accelerators are available in pop-up menus only if the menu contains the same options as a pull-down menu and uses the same accelerators as the corresponding options in the pull-down menu.

Windows Only: Accelerators are not available in pop-up menus.

When an accelerator is activated, the associated menu is displayed briefly and its action is applied in the window that has focus.

The accelerators in appendix C are used whenever one of the actions listed therein is implemented in the application. If new accelerators are created, they have the form “modifier+character,” where the modifier is <Alt>, <Ctrl>, <Shift>, or a combination of these keys, and the character is an alphanumeric or special key on the keyboard. Mnemonics and accelerators are selected to be coordinate with each other. For example, if S is the mnemonic for Save, Ctrl+S is used as the accelerator.